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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,010	11/21/2003	Ajithkumar Sandur	1230-102.US	2780

7590 12/06/2005
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EXAMINER

ALEXANDER, MICHAEL P

ART UNIT PAPER NUMBER

1742

DATE MAILED: 12/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/720,010	Applicant(s) SANDUR, AJITHKUMAR	
	Examiner Michael P. Alexander	Art Unit 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) 4-7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2 and 3 is/are rejected.
- 7) ☒ Claim(s) 1 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 November 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-7 are pending.

Election/Restrictions

Claims 4-7 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 7 November 2005.

Information Disclosure Statement

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Specification

The abstract of the disclosure is objected to because "Steel" should be "steel". Correction is required. See MPEP § 608.01(b).

The disclosure is objected to because of the following informalities: the specification is filled errors and should be corrected. More specifically, there are numerous grammatical errors, which should be corrected. Also, the applicant is requested to use the term "carburized" instead of "carburised". Additionally, the applicant capitalizes many words throughout the specification, some of which are inconsistently applied and others are unnecessary ("Increases", "Vacuum", "Austenite").

Art Unit: 1742

The use of the trademark "RIGAKU" has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Appropriate correction is required.

Claim Objections

Claim 1 is objected to because of the following informalities:

- "carburising" in line 7 should be "carburizing";
- "Ammonia" in line 9 should be "ammonia";
- "tempering at 160 to 180 degree Centigrade;" in line 11 should be "tempering at 160 to 180 degree Centigrade; **and**";
- steps (a) and (b) in claim 1 should be recited as active steps, such as "applying a modified carbonitriding treatment" and "applying a hard shot peening process";
- "Modified Carbonitriding" should be "modified carbonitriding";
- "shot hardness 610 to 800 Hv" should be "shot hardness **ranging from** 610 to 800 Hv";

Art Unit: 1742

- "shot velocity 60 to 150 m/sec" should be "shot velocity **ranging from** 60 to 150 m/sec".

Claims 2-3 is objected to because of the following informalities:

- "where in" in line 2 should be "wherein".

Appropriate correction is required.

Claim Interpretations

The Examiner would like to set forth his interpretation of the term "modified carbonitriding treatment" in claim 1. The Examiner does not give any patentable weight to the term "modified". The Examiner interprets this word to be merely a name applied to the process, and the "modified carbonitriding treatment" is entirely defined by the method steps following the term.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 2-3, the phrase "produced by vacuum degassing and alike routes" renders the claims indefinite because the claims include elements not actually disclosed (those encompassed by "and alike routes"), thereby rendering the scope of the claims unascertainable.

Allowable Subject Matter

Claim 1 is allowed.

The following is a statement of reasons for the indication of allowable subject matter: the method of treating gears made of steel by carburizing, cooling for carbonitriding with ammonia, quenching, tempering and shot peening are known from the cited prior art. However, the prior art does not teach all the temperatures, the ammonia concentration and the shot peening parameters in combination. More specifically, the claimed invention has an unusually high ammonia concentration that is traditionally avoided. Furthermore, the quenching temperature would not be obvious by routine optimization because the effects of quenching temperatures are unpredictable and different in different processes, and the applicant claims a quenching temperature range that is narrow (160 to 180 degrees C) relative to all the possible quenching temperatures, which typically range from lower than 15 degrees C to higher than 230 degrees C.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 5,019,182, US 5,595,610, US 5,595,613, US 6,309,475, US 6,413,328, US 6,447,619 and US 2002/0119858 disclose heat treatment methods by carburizing, cooling for carbonitriding with ammonia, quenching, tempering and shot peening.

Art Unit: 1742

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P. Alexander whose telephone number is 571-272-8558. The examiner can normally be reached on M-F 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy V. King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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ROY KING
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700